

Ref.

OPINION 192.

SUSPENSION OF THE RULES FOR *NUMMULITES* LAMARCK, 1801 (CLASS RHIZOPODA, ORDER FORAMINIFERA).

SUMMARY.—Under suspension of the rules (i) the name *Camerina* Brugière, 1789, is hereby suppressed for all purposes other than Article 34 of the International Code and (ii) the name *Nummulites* Lamarck, 1801 (Class Rhizopoda, Order Foraminifera) is validated with *Camerina laevigata* Brugière, 1789, as type. The name *Nummulites* Lamarck, 1801, so validated, is hereby added to the *Official List of Generic Names in Zoology* as Name No. 623.

I.—THE STATEMENT OF THE CASE.

This case, together with that of the names *Lepidocyclina* Gümbel, [1879],¹ and *Cyclosiphon* Ehrenberg, 1856, was submitted to the International Commission on Zoological Nomenclature by Commissioner Frederick Chapman, Commonwealth Palaeontologist, National Museum, Melbourne, Australia, in the following letter dated 12th December 1928:—

I would like to propose the suspension of the rule of priority on account of two well-known genera—*Lepidocyclina* and *Nummulites*. They have lately been superseded by J. J. Galloway and J. A. Cushman respectively. The changes they propose would be against the best interests of rational nomenclature.

II.—THE SUBSEQUENT HISTORY OF THE CASE.

2. On receipt of the foregoing application, Dr. C. W. Stiles, Secretary to the International Commission, decided as a first step to consult certain specialists interested in this case either directly from the point of view of systematic zoology or indirectly from that of geological surveying. The replies in most instances covered not only the present case but also the case of *Lepidocyclina* Gümbel and *Cyclosiphon* Ehrenberg. The replies received

¹ In *Opinion 127* dealing with the name *Lepidocyclina* Gümbel, the date of publication of that name was given as 1868, the year of the volume of the *Abh. bayer. Akad. Wiss.*, in which that name was published. It has since been ascertained that the portion of that volume containing this name was not published until 1870 (see 1943, *Bull. zool. Nomencl.* 1 : 9).

in respect of the last-named case are quoted in full in *Opinion 127* relating to that case, together with the replies which related both to that case and to the present case. So much as is necessary of the latter replies is quoted below, together with one communication which referred only to the present case :—

- (a) *Comment by Dr. Edward Willard Berry, Assistant State Geologist, Maryland Geological Survey, Johns Hopkins University, Baltimore, Md., dated 6th February 1929.*

I understand that there is pending before the International Commission on Zoological Nomenclature the decision whether to retain the generic use of *Nummulites* and *Lepidocyclus*. I wish to go on record as being in favor of retaining these two genera in the classification.

- (b) *Comment by Dr. George Otis Smith, Director of the U.S. Geological Survey, Washington, D.C., dated 11th February 1929.*

The proposition for suspension of the rules in zoological nomenclature for the purpose of retaining the two generic names *Lepidocyclus* and *Nummulites* has been considered by all the Geological Survey palaeontologists now in Washington whose work involves the use of zoological names. While the workers of this group subscribe to the rule of priority for general use they are unanimous in their recommendation that the rule should be suspended in its application to the two names above mentioned so that they may be continued in use.

Enclosures to the letter received from Dr. George Otis Smith

- (i) *Comment by L. W. Stephenson*

In the case of a generic name which has been in long and general usage there seems nothing to be lost and much to be gained by retaining it, even though some one may discover that an older, practically unknown name has priority over it. I therefore recommend that *Nummulites* and *Lepidocyclus* be given validity by the International Commission. I feel, however, that exceptions should be made only in extreme cases such as the ones here presented.

- (ii) *Comment by T. W. Stanton*

I concur in the above statement.

- (iii) *Comment by Edwin Kirk, C. Wythe Cooke, W. C. Mansfield, and Chas. Butts*
Concur.

- (iv) *Comment by George H. Girty*

Agreed, both as to making exceptions only in extreme cases and as applied here to *Nummulites* and *Lepidocyclus*.

- (v) *Comment by John B. Reeside, Jr. (dated 25th January 1929)*

I believe that the substitution of *Camerina*, almost entirely unused and unknown, for *Nummulites*, extensively used for over a century, is a useless bit of hair-splitting legal procedure. It will lead to more confusion than clarity. . . . I can see no profit whatever in going back into the literature of the dim past to dig up names that have only the legal show of validity and using them to replace widely used and well understood terms. Let us keep *Nummulites* . . .

- (vi) *Comment by P. V. Roundy (dated 5th February 1929)*

I agree with the above statement.

(vii) *Comment by Chas. Butts* on note by John B. Reeside Jr., (see also (iii) above)
Amen and again Amen.

(viii) *Comment by E. O. Ulrich* (dated 29th January 1929)

In cases in which the confusion arising from the resurrection of an older name is obviously to the disadvantage of the science, especially as in the case under consideration in which no good save the questionably earned rights to Ehrenberg [in the case of *Cyclosiphon*] and Brugière [in the case of *Camerina*] appear to offset the ill it would do the science, I am opposed to replacing a well known and generally used name by an older one that never attained common usage. Therefore I am in favor of retaining *Lepidocyclina* and *Nummulites*.

(c) *Comment by Dr. Joseph A. Cushman, Cushman Laboratory for Foraminiferal Research, Sharon, Mass., U.S.A. (forwarded under cover of a letter dated 27th May 1929).*

Camerina—Nummulites

Camerina Brugière, 1792

See Brugière, *Encyclopedie Méthodique, Histoire naturelle des Vers*, Paris, 1792, pp. 395-400.

Brugière names four species under the genus, of which the first (p. 399), *Camerina laevigata* Brugière, should be taken as the genotype.²

The species *Camerina laevigata* Brugière is definitely named and described at length with numerous references to previous figures. Numerous localities are given.

Camerina laevigata is figured by Héricart de Thury, *Journ. Depart. Oise*, Ann. VIII, 1800, p. 83, pl., figs. 1. a-g, 4, 5.³

Nummulites laevigata Lamarck, *Syst. Anim. sans Vert. &c.*, 1801, p. 101, given below "*Nummulites laevigata* Br." and at the end of the synonymy "*Camerina* Br." He uses Brugière's specific name, and places the earlier genus *Camerina* as a synonym under his *Nummulites*.

Nummulites laevigata Lamarck, *Ann. Mus.* 1804, 5 : 241, notes "*Camerine* lisse, Brug. No. 1" and elsewhere in this paper refers to other species of Brugière and to his remarks on *Camerina*.

The species "*Nummulites laevigata* Lamarck" is referred to and used as a good species, but should be credited to Brugière and not to Lamarck. Lamarck recognized *Camerina* as a synonym of his *Nummulites*, but like many early authors preferred for some reason to give a new name rather than recognize the earlier generic name of Brugière. In like manner, d'Orbigny in 1826, *Ann. Sci. nat.* 1826, 7 : 295, gave a new generic name *Nummulina* and gives as the first species "*Nummulina laevigata*" credited to Lamarck, placing in the synonymy "*Nummulites laevigata* Lamarck" with references.

² When later Dr. Stiles circulated this communication to the members of the Commission (see paragraph 3 below), he drew attention to the fact that *Camerina laevigata* Brugière is not the type of *Camerina* Brugière by original designation.

³ As Dr. Stiles was unable to obtain a copy of this work in Washington, he applied for further assistance to Dr. Cushman, who replied (3rd July 1929) : "Sherborn says in his Bibliography : 'Not seen : This Journal is extremely rare : Particulars of the paper will be found in d'Archiac and Haime.' He refers to Archiac and Haime, *Description des Animaux fossiles du groupe nummulitique de l'Inde, précède d'un résumé géologique et d'une Monographie des Nummulites*. 2 vols. 4to. Paris, 1, 1853 : 2, 1854. 373 pp., 36 plates. I have not seen the first work and do not know that it can be obtained in America. If Sherborn did not see it, that is sure proof that it is very rare."

Of very definite importance in this connection is the review of this whole problem of *Camerina* Brugière, *Nummulites* Lamarck and *Nummulina* d'Orbigny by Meek and Hayden in *Smithsonian Contributions to Knowledge*, 172, 1864, *Palaeontology of the Upper Missouri*, where on pp. 11-13 they discuss older names. They propose there the family name CAMERINIDAE. They also give very good and sound reasons for using priority there. *Camerina* was evidently used by Cuvier, 1798, and Lamarck, 1799 with *laevigata* Brugière before the name *Nummulites* was even proposed. It seems a clear case that there is no standing according to the rules for either *Nummulites* or *Nummulina*. If the rules are to be set aside so that *Nummulites* based on the genotype of *Camerina* will take its place, I see no particular use of the rules at all. If it were an obscure case as in *Lepidocyclus* and *Cyclosiphon* there might be some justification in retaining the later name, but there is nothing but a very clear case. It simmers down to whether or not the rules shall be suspended to conserve names from length of usage alone.

It may be said in this connection that the older "*Nummulites*" has been split into numerous other genera at the present time, and the original name covers only a part of the older generic concept at best. The change to the older *Camerina* is therefore not so radical as might be thought by those whose unfamiliarity with the group probably makes them suppose that the whole group is still called "*Nummulites*." I favor the use of the rules and the preservation of *Camerina* Brugière as advocated by Meek and Hayden in 1864 as noted above.

3. The petition in this case, together with the comments thereon quoted in paragraph 2 above, was communicated to the members of the Commission by Dr. Stiles in August 1929. To these data, Dr. Stiles added the following note prepared by himself:—

The essential bibliographic data in the case of *Nummulites* as verified by the Secretary are as follows:—

Camerina Brugière, 1792, *Encyc. méth. Hist. nat. Vers*, v. 1, 395-400. No indication ("rigidly construed") of type species but in the discussion of the first species (*Camerina laevigata*) is found the statement "Cette espèce est la plus commune de toutes et la plus généralement répandue" (cf. Art. 30. h.j.n.); and in the synonymy of the second species (*C. striata*) is found the statement "elle est de celles qui portent communément le nom de pierres lenticulaires" (cf. Art. 30.n.). The third species (*C. tuberculata*) is described by comparison with the first and second (cf. Art. 30.r.), and the statement is made that Guettard seems to have considered it only a variety. The name of the fourth species (*C. nummularis*) is obviously based upon one of the vernacular names, "pierre numismale."

Nummulites Lamarck, 1801, *Syst. Anim. sans Vert.*, 101, mt.⁴ *Nummulites laevigata*, quotes *Camerina* Brug. as a synonym. From this paper alone the evidence is not quite clear whether Lamarck deliberately renames *Camerina* or whether he simply eliminates⁵ *laevigata* from the genus *Camerina* to *Nummulites*.

Lamarck, 1804, *Ann. Mus. nat. Hist. nat.*, v. 5, 237-242, cites under

⁴ The expression "Mt." here placed in front of the name *Nummulites laevigata* signifies that that was the only species cited by Lamarck and therefore that the genus *Nummulites* Lamarck is monotypic.

⁵ The word "eliminate" as here used has the same significance as though the word "transfer" had here been used, as it is in fact so used in the two succeeding paragraphs.

Nummulites four species, i.e., 1. *laevigata*, 2. *globularia*, 3. *scabra* (? = synonym of *Camerina tuberculata*), 4. *complanata* (= *Camerina nummularia* renamed). It is obvious that at least two of the original species (*laevigata* and *nummularia*) have now been transferred to *Nummulites*; the transfer of *tuberculata* appears probable. It is not clear to the Secretary that *globularia* is intended as a synonym of *striata*. (The species *striata* was transferred to *Nummulites* by d'Orbigny, 1850, v. 2, 406; *globularia* is syn. of *laevigata*, fide d'Archiac & Haime, 1853, 103).

Lamarck, 1822, *Hist. nat. Anim. sans Vert.* vol. 7, pp. 627-630, makes it clear that his genus *Nummulites* is *Camerina* renamed and he quotes the same four species which he quoted in 1804; *laevigata*, *scabra*, and *complanata* retain the same status as in 1804, while it still remains apparently impossible to identify Brugière's second species (*globularia*) with *striata*. Accordingly the Secretary has no evidence that *striata* was transferred by Lamarck to *Nummulites*. The Secretary inclines to the view that *Nummulites* is *Camerina* renamed and since *laevigata* is monotype of *Nummulites* it becomes type of *Camerina* under Art. 30.f.

It is furthermore to be noticed that later authors have interpreted *Nummulites* as a direct renaming of *Camerina* and the Secretary is not inclined to contest this interpretation. For instance, Deshayes, 1830, *Encyc. méth. Hist. nat. Vers.* vol. 2, p. 178, states definitely that *Nummulites* is *Camerina* renamed.

D'Orbigny, 1826, deliberately renamed *Nummulites* as *Nummulina* on the ground that living species as well as fossils had become known, while the name *Nummulites* was based upon the premise (cf. Lamarck, 1804) that all known species of the genus were fossils. Thus, *laevigata* is by renaming (Art. 30.f.) the type of *Nummulina* and the latter is an objective synonym of *Nummulites*.

While authors generally have adopted *Nummulites* instead of *Camerina*, Meek & Hayden, 1864, *Smiths. Contr. to Knowl.*, no. 172, pp. 11-13 discussed the synonymy and history of the generic names and gave preference to *Camerina* on which they based the family name CAMERINIDAE.

Commissioner Apstein (1913, *Nom. conservanda* : 121)⁶ recommended the acceptance of *Nummulites*, but did not cite a type species.

4. Dr. Stiles added also the following general observations on the problems raised by the present case :—

The Secretary would suggest that, since this case is of such interest and importance to geologists and palaeontologists, it would be well if the Commissioners would find it convenient to consult specialists in these fields in their own countries prior to their formulation of final opinion.

So far as the Secretary understands the case at present, this is a clear case of Law of Priority—but without transfer of names to type species not originally included under the generic name. Therefore it is quite different from cases like *Trichecus* versus *Manatus* (*Opinion* 112), from *Holothuria* (*Opinion* 80), and *Simia* (*Opinion* 114); but it appears to the Secretary to be a case which involves the broad question of economics as applied to nomenclature; i.e. when a name is in general use, especially in fields other than strictly zoological, a change of name on basis of the Law of Priority places allied subjects (as geology, medicine, law) at a disadvantage and involves an actual financial loss as expressed in time, publication, records, etc. resulting in confusion. At the present day when because of the world's economic condition science finds itself at a distinct financial disadvantage

⁶ The paper by Commissioner Apstein here referred to is that which forms the subject of *Opinion* 74.

it would appear to the Secretary that the question of confusion becomes doubly important.

At the same time, the first two sentences in the final paragraph in the statement of Dr. Cushman appear to the Secretary to be very important.

5. On 5th November 1929 Commissioner Chapman addressed a further letter to the Commission, with which he transmitted the following note setting out the views on this case expressed by other workers and specialists in Australia :—⁷

(a) *Comment by Professor Walter Howchin, F.G.S., Hon. Prof. Emeritus, Geology and Palaeontology in the University of Adelaide*

I am heartily in accord with you for the retention of the generic names *Nummulites* and *Lepidocyclina*. These names have become so thoroughly incorporated in the literature of Foraminifera that their substitution would involve serious inconvenience and confusion, priority notwithstanding. I hope that the exceptions you suggest will be agreed to.

(b) *Comment by W. J. Parr, F.R.M.S., State Treasury, Victoria (co-author on Foraminifera of the Mawson Expedition)*

I think that the genera *Nummulites* Lamarck and *Lepidocyclina* Gümbel should be retained as *nomina conservanda* in place of the earlier *Camerina* Brugière and *Cyclosiphon* Ehrenberg.

I am generally opposed to the suspension of the rules, but unlike the other Foraminifera genera which have been superseded recently, *Lepidocyclina* and *Nummulites* have been much used in general geological literature and a change to the older genera would certainly lead to much confusion which it is desirable to avoid.

(c) *Comment by Robert A. Keble, F.G.S., Palaeontologist, National Museum and Geological Survey of Victoria*

I am in thorough agreement with the retention of *Nummulites* and *Lepidocyclina*. By doing so the literature becomes intelligible at a glance and unconfused by the rules of nomenclature. Expressed in terms of time saved, such has a true economic value; confusion and uncertainty must obviously accompany a reversion to the strict order of priority.

There remains, then, the question of sentiment. Brugière and Ehrenberg, the aggrieved authorities, have long passed away, but there is no question of depriving them of their priority. These unselfish pioneers would not have condoned for a moment the waste of time and confusion that would ensue in establishing their presumed right to priority.

(d) *Comment by Miss Irene Crespin, B.A., Assistant Palaeontologist, Commonwealth of Australia, National Museum, Melbourne*

As far as the two genera, *Nummulites* and *Lepidocyclina*, are concerned, I would emphatically support the retention of these names by a suspension of the rules.

⁷ For the reasons explained in paragraph 2 of the present *Opinion*, the case of *Nummulites* Lamarck versus *Camerina* Brugière was in its early stages considered by the Commission concurrently with that of *Lepidocyclina* Gümbel versus *Cyclosiphon* Ehrenberg. Hence the references to both these cases in the document here quoted.

(e) *Comment by A. C. Collins, Public Works Department, Melbourne
(a student of the Victorian Tertiary Foraminifera)*

I should like to express my personal opinion that the generic names *Lepidocyclina* Gumbel and *Nummulites* Lamarck should be retained in preference to earlier names. As these names are so widely used in stratigraphic references, their alteration would, I think, create confusion amongst non-specialists in the group, and I see no useful purpose to be served (in these cases) by the rigid application of the rules of nomenclature.

(f) *Comment by Fredk. A. Singleton, M.Sc., Lecturer on Agricultural
Geology and Curator of the Geological Museum, Melbourne
University*

My formal opinion concerning *Nummulites* and *Lepidocyclina* is that both should be placed on the official list of *nomina conservanda* and it is impossible to reject one and not the other, *Cyclosiphon* having stronger claims than *Camerina*.

6. In February 1931 Dr. Stiles reported to the Commission that ten (10) Commissioners had recorded their votes on this case in response to the invitation contained in the document which in August 1929 he had circulated to the members of the Commission (paragraphs 3 and 4 above). Seven (7) Commissioners (Apstein, Bather, Chapman, Handlirsch, Horváth, Silvestri and Warren) had voted in favour of the suspension of the rules to preserve *Nummulites* Lamarck; three (3) Commissioners (Jordan, Stephenson and Stone) had voted against that course. Two only of the Commissioners concerned had furnished statements setting out the grounds on which they based their position. These statements were as follows :—

(a) *Statement by Commissioner F. A. Bather (with his affirmative vote) :*

I could wish that the rules might take their course, if only *Nummulites* could be retained somewhere in the system, as a group name or as an omnibus name; such as *Ammonites*. Thus the textbook use and the geological use, e.g. Nummuliten Kalk, would remain. If Dr. Cushman had given the facts in his final paragraph, he might have strengthened his position. The facts, as supplied by Prof. Morley Davies, incline me to accept the view of the majority. Mr. Wrigley, who is working on the Eocene of England, and Mr. Heron-Allen, an authority on the Foraminifera, would suspend the rules to avoid confusion. Mr. C. P. Chatwin, a palaeontologist of the Geological Survey, agrees with Dr. Cushman's final paragraph, and would keep to the rules.

(b) *Statement by Commissioner Witmer Stone (with his negative vote) :*

The privilege of asking for a suspension of the rules is in danger of being abused. I should advocate it only in cases (1) that are so involved that

various interpretations are possible or (2) that seriously affect fields and activities outside of pure zoological nomenclature. With too much leniency, our whole system will become utterly inconsistent. I regard Dr. Cushman's point of great importance. In ornithology it would appear to be a very serious matter to overthrow or change the application of the Linnean genus *Picus* but as a matter of fact there is, I believe, only one woodpecker left in that genus today.

7. Up to this stage Dr. Stiles himself had not voted on this case, but now in the hope of bringing the matter to a definite issue, he ranged himself with those who favoured the suspension of the rules for *Nummulites* Lamarck and brought forward a formal motion that the Commission should render an *Opinion* in that sense.

8. One of the authorities whom Dr. Stiles had consulted on first receiving the application in the present case was Dr. T. Wayland Vaughan, Director, the Scripps Institution of Oceanography of the University of California. At that time Dr. Wayland Vaughan had been away from the United States but on his return he wrote to Dr. Stiles a letter dated 10th May 1933 in which he stated: "Personally I should have preferred to use *Camerina*, but I recognize the strength of the argument for *Nummulites*. Therefore, I do not feel inclined to protest against the decision in favor of *Nummulites*." In a further letter dated 20th June 1933, Dr. Wayland Vaughan said: "Personally I should have preferred to follow the rules and adopt *Camerina* but I think that no confusion will result if *Nummulites* is adopted. It is a matter on which I have very little feeling and will gladly abide by the decision no matter which name it [i.e. the Commission] may favor."

9. In March 1935 Dr. Stiles notified the members of the Commission that three further Commissioners had now voted on this case: two (2) Commissioners (Ishikawa and Pellegrin) had voted in favour of the suspension of the rules for *Nummulites* Lamarck; one (1) Commissioner (Cabrera) had voted against that course. With his negative vote Commissioner Cabrera had furnished the following statement of his views:

I cannot see the reason why we must suspend the priority law for a genus of Foraminifera because geologists use such name more commonly than such other, and we do not do the same for genera of other groups because of frequent use of such or such name by other people. If we retain *Nummulites* because it has been employed for many years in books of Geology and Palaeontology, we must use in animals *Dicotyles* because during many years it has been used in text books and in books on travel, geography, zoogeography and sport. Audubon, De Kay, Burmeister, Rengger, Lydekker, Brehm and many other authors made *Dicotyles* a well known name for the peccaries, but, on priority grounds, this name has been rightly rejected. It is the same with *Semnopithecus*, *Chiromys*, and

many other names; also in birds, reptiles, etc. We must face in all these cases the old problem; use versus priority. Now, priority is one of the more solid bases of our present code of nomenclature. Of course it displeased many people, but laws are never made to please everybody. If we suspend the rules for *Nummulites*, we open a door for constant transgression of law, as many other names in Palaeontology are in the same position; and if we do so for fossil genera, the same thing must be done for living genera. The next step will be to go back to the days before the rules, when every one did as pleased him. The wisest words about this matter are those of Witmer Stone when he says: "The privilege of asking for a suspension of the rules is in danger of being abused,"⁸ and those of Cushman when he tells: "If the rules are to be set aside so that *Nummulites* based on the genotype of *Camerina* will take its place, I see no particular use of the rules at all."⁹

The case of *Lepidocyclus*¹⁰ is very different, the true meaning of *Cyclosiphon* being not clear, and this name being based on a specimen not well identified, as it appears from the opinion of specialists. But for *Camerina* and *Nummulites*, there is not any doubt that they are synonyms, with the same type species, and that *Camerina* is the oldest by nine years. It is said that the use of *Nummulites* saves time; well, I think more saving of time is attained by following strictly the rule of priority, than by searching arguments to avoid it.

10. In the report referred to above, Dr. Stiles added that the case was referred "for further routine to the Commission for such action as may be necessary or advisable at the Lisbon meeting" due to be held later that year.

11. At the Lisbon Session of the International Commission, the available documents relating to this case were examined by Commissioner Francis Hemming, who, jointly with Commissioner James L. Peters, had been charged with the duty of acting as Secretary to the Commission during that Session, owing to the absence through ill-health of Dr. Stiles. The conclusions so reached by Commissioner Hemming are set out in the following note made in the records of the Commission:—

As submitted by Commissioner Chapman, this case raises only a single issue, namely whether the strict application of the rules in relation to the names *Camerina* Brugière and *Nummulites* Lamarck would clearly result in greater confusion than uniformity. In the course of the discussion of this question, Commissioners Witmer Stone and Cabrera have raised the wider issue of the circumstances in which the International Commission should grant or withhold their approval of proposals submitted to the Commission for the suspension of the rules in certain cases. It is necessary, therefore, to consider this latter question also.

2. The conclusions which I have reached after a study of the documents in this case are as follows:—

(A) *On the merits of the case viewed purely as a problem in the nomenclature of the Order Foraminifera.*

(i) *Camerina* Brugière, 1789, is an available name in the sense that it is not a homonym of an earlier identical generic name.

⁸ See paragraph 6(b) above.

⁹ See paragraph 2(c) above.

¹⁰ See *Opinion* 127.

- (ii) *Nummulites* Lamarck, 1801, is also an available name in the sense that it is not a homonym of an earlier identical generic name.
 - (iii) Brugière placed a number of species in *Camerina* Brugière and did not designate a type for that genus. There is no evidence in the papers that any subsequent author selected in the rigidly construed sense required by Article 30 of the Code either *Camerina laevigata* Brugière, 1789, or any of the other originally-included species to be the type of the genus *Camerina* Brugière.
 - (iv) If *Nummulites* Lamarck was proposed as a new genus (and not merely as a nom.nov. for *Camerina* Brugière), it is a monotypical genus with *Camerina laevigata* Brugière as its type.
 - (v) It appears, however, that many authorities have taken the view that Lamarck published the name *Nummulites* as a nom.nov. pro *Camerina* Brugière. If this is the case, the citation of a single species (*C. laevigata* Brugière) under *Nummulites* by Lamarck would not make that genus a monotypical species with that species as its type, for the type species of a genus proposed as a nom.nov. pro another genus is necessarily the species (whatever it may be) which is the type of the genus so replaced. As stated in (iii) above, it is not clear that any subsequent author has designated a type for *Camerina* Brugière under the procedure laid down in Article 30 of the Code. If, however, Lamarck, in addition to citing *C. laevigata* Brugière under *Nummulites* had designated that species as the type and if he had proposed *Nummulites* as a nom.nov. pro *Camerina* Brugière, *C. laevigata* Brugière (being one of the species originally included by that author in his *Camerina*) would automatically become also the type of *Camerina* Brugière under rule (f) in Article 30 of the Code.
 - (vi) Later authors appear to have treated *Camerina* Brugière and *Nummulites* Lamarck as identical genera and it is likely that a search of the literature would disclose a paper in which some author definitely stated that *C. laevigata* Brugière was the type of the first-named genus as well as of *Nummulites* Lamarck. Such a statement would comply with the requirements of rule (g) in Article 30 of the Code and *C. laevigata* Brugière would then become the type of both genera, irrespective of whether *Nummulites* Lamarck was originally proposed as a new genus or as a substitute for *Camerina* Brugière.
 - (vii) In view of the considerations indicated in (ii) to (vi) above, there is, in the absence of additional evidence, a substantial doubt regarding the identity of the type not only of *Camerina* Brugière but also of *Nummulites* Lamarck. There is thus a good *prima facie* case for asking for an *Opinion* from the International Commission in regard to this case, even if there were no question of requesting a suspension of the rules for *Nummulites* Lamarck.
- (B) *On the principles which should govern the grant or rejection of applications for the suspension of the rules in particular cases.*
- (viii) The present International Code was not published until 1905 but the zoological nomenclature to which it applies is recognised by the Code as having started with the publication in 1758 of Linnaeus's *Systema Naturae*, ed. 10. Thus at the present time (1935) the International Code applies to names published during the period of 146 years (1758-1904) prior to its introduction and to names published in the period of 31 years (1904-1935) since its introduction.
 - (ix) As regards any name published in the period since the introduction of the Code, the suspension of the rules is, as Commissioner Witmer

Stone observes, a privilege and one which should be reserved for wholly exceptional cases.

- (x) The position is quite different as regards names published before the introduction of the Code. Retrospective legislation—for such is what the Code is in relation to all names published before 1905—however carefully it may be framed, cannot avoid being harsh and inequitable in a certain number of cases. It was largely to meet this self-evident consideration that in 1913 the International Congress of Zoology conferred plenary power upon the International Commission on Zoological Nomenclature to suspend the rules where, in the judgment of the Commission, the strict application of the rules would clearly result in greater confusion than uniformity. Where in the case of any name published before 1905 it can be established that such confusion would ensue from the strict application of the rules, the suspension of the rules under the plenary powers cannot reasonably be regarded as a privilege which must be hedged about with restrictive conditions. On the contrary, in such cases there are strong *prima facie* grounds in favour of the suspension of the rules.

- (xi) In judging applications for the suspension of the rules in particular cases, the International Commission is in the position of a trustee for all the branches of science in which use is made of zoological nomenclature. The chief of these is systematic zoology, but, as has been cogently pointed out by Dr. Stiles,¹¹ it is necessary and proper that the International Commission should take account also of the legitimate interests of the applied sciences (such as medicine, geology, agriculture, etc.) in which use is made of zoological nomenclature. Due regard should be paid also to economic and social considerations¹¹ where these involve questions of zoological nomenclature.

(C) *Conclusion on the question whether the rules should be suspended in the case of the names Camerina Brugière and Nummulites Lamarck.*

- (xii) The evidence shows that the name *Nummulites* Lamarck has been used very extensively and over a long period of years both as a generic name and (as pointed out by the late Commissioner Bather) as a group name for *Camerina laevigata* Brugière and its allies, whereas the name *Camerina* Brugière has only been used by a limited number of authors. If this was the sole ground on which suspension of the rules was requested in this case, I should be inclined to take the view that, while inconvenience would certainly result from the substitution of *Camerina* Brugière for *Nummulites* Lamarck, it had not been clearly established in the papers submitted that the strict application of the rules in this case would clearly result in greater confusion than uniformity, though with a more adequate presentation of the history of these two names in the XIXth century and in the present century, it might be that the applicants could establish the likelihood of confusion to an extent which would justify the suspension of the rules in this case.
- (xiii) The evidence submitted shows however that the application for the suspension of the rules in this case does not rest solely or even principally upon the effect on the systematics of the Order Foraminifera of the strict application of the rules as regards the names *Camerina* Brugière and *Nummulites* Lamarck. An important part of the application rests upon the argument that, in view of the importance of the name *Nummulites* from the point of view of

¹¹ See passage quoted in paragraph 4 above.

stratigraphy, the elimination of that name under the law of priority and the substitution therefor of the name *Camerina* would clearly result in greater confusion than uniformity. This view has the unanimous support of all the geologists of the United States Geological Survey by whom the question has been considered; all the Australian and, with one exception, all the United Kingdom, geologists who have expressed views on this subject share the view expressed by their American colleagues.

- (xiv) In the light of these considerations, I have reached the conclusion that the applicants have succeeded in establishing the proposition that the strict application of the rules in this case would clearly result in greater confusion than uniformity.
- (xv) I accordingly consider that the relief sought in this case should be granted and therefore that the rules should be suspended for the purpose of suppressing the name *Camerina* Brugière and of placing *Nummulites* Lamarck (with *Camerina laevigata* Brugière as type) on the *Official List of Generic Names*. I accordingly recommend that this case should be dealt with under the procedure prescribed in the second Article of the Plenary Powers Resolution adopted by the Ninth International Congress of Zoology at its meeting held at Monaco in 1913.¹²

12. Thus, when on Tuesday, 17th September 1935, the Commission came to consider this case, fifteen (15) Commissioners had voted on this case.

13. Eleven (11) Commissioners had voted in favour of the suspension of the rules to preserve the name *Nummulites* Lamarck, namely :—

Apstein; Bather; Chapman; Handlirsch; Hemming; Horváth; Ishikawa; Pellegrin; Silvestri; Stiles; and Warren.

14. Four (4) Commissioners had voted against the suspension of the rules in this case, namely :—

Cabrera; Jordan; Stephenson; and Stone.

15. At the meeting referred to above, the Commission had under consideration this case, jointly with that of *Lepidocyclina* Gümbel, [1870], and, after taking note of the state of the voting in each of these cases (Lisbon Session, 4th Meeting, Conclusion 12)¹³ :—

- (b) agreed that in view especially of the long time that these cases had been under consideration by the Commission, it was desirable to do everything possible to secure a final settlement with as little further delay as possible and that the proper course as regards the case of *Nummulites* Lamarck, 1801, was to proceed under Article 2 of the "Plenary Powers" Resolution¹² adopted by the Ninth International Congress of Zoology in March 1913;

¹² See Declaration 5 (1943, *Opinions and Declarations rendered by the International Commission on Zoological Nomenclature* 1 : 31-40).

¹³ For the full text of Conclusion 12, see 1943, *Bull. zool. Nomencl.* 1 : 38-39.

- (c) in view of (b) above, to report the case of *Nummulites* Lamarck, 1801, to the President of the Section of Nomenclature of the present (Lisbon) Congress for action under the said Article 2 of the Resolution of March 1913.

16. The decision recorded above was concurred in by the twelve (12) Commissioners and Alternates present at the Lisbon Session of the International Commission, namely :—

Commissioners :—Calman; Hemming; Jordan; Pellegrin; Peters; and Stejneger.

Alternates :—do Amaral *vice* Cabrera; Ohshima *vice* Esaki; Bradley *vice* Stone; Beier *vice* Handlirsch; Arndt *vice* Richter; and Mortensen *vice* Apstein.

17. In accordance with the foregoing decision, the case dealt with in the present *Opinion* was immediately reported to the President of the Section on Nomenclature of the Lisbon Congress. In view of the fact that (as explained in paragraphs 1 and 2 of the present *Opinion*) the case of *Nummulites* Lamarck versus *Camerina* Brugière had from its inception been considered in conjunction with the case of *Lepidocyclus* Gümbel versus *Cyclosiphon* Ehrenberg, it was impossible to make available the documentation relating to the case of the names *Nummulites* and *Camerina* until after the close of the concluding stages of the case relating to the names *Lepidocyclus* and *Cyclosiphon*. The President of the Section on Nomenclature accordingly decided that it was not practicable to proceed with the appointment of a Board of Three Members for the purpose of reaching a final decision on the case of the names *Nummulites* and *Camerina* until such time as the documents in regard thereto were available, in consequence of the adoption of the forthcoming *Opinion* in regard to the names *Lepidocyclus* and *Cyclosiphon*.

18. In October 1936 there was published *Opinion* 127 dealing with the case of the names *Lepidocyclus* Gümbel and *Cyclosiphon* Ehrenberg. Dr. Stiles took the opportunity so presented to add at the end of that *Opinion* a note showing the state of the vote on the case of the names *Nummulites* Lamarck and *Camerina* Brugière, as it stood at the time of the opening of the Session of the International Commission held at Lisbon in the previous year. Notwithstanding the additional publicity for the last-named case so afforded, no communication of any kind was received by the International Commission, either at that time or subsequently, objecting to the suspension of the rules in favour of *Nummulites* Lamarck.

19. Various causes, including the resignation of the Secretaryship of the Commission by Dr. Stiles and the consequent need for the establishment of the Secretariat of the Commission at new headquarters, combined to make it impossible to secure any further progress in this case before the outbreak of war in Europe in September 1939 put a temporary stop to the activities of the Commission. When, however, it was found possible in the spring of 1942 to arrange for the reopening of the Secretariat of the Commission, this case was reviewed jointly by the President of the Commission and the Secretary to the Commission, who agreed that, having regard to the length of time which this case had already been before the Commission, every effort should be made to secure the services of a former member of the Commission who had not expressed any public opinion on this case and thereby to render possible the immediate appointment of the required Board of Three Members for the purpose of deciding the action to be taken in this case, in accordance with the procedure prescribed in Article 2 of the Plenary Powers Resolution of March 1913.

20. On being approached, Sir Peter Chalmers Mitchell,¹⁴ a former member of the Commission who had expressed no public opinion on this case, kindly consented to assist the Commission by serving on the Board of Three Members. Accordingly, on 30th December 1942, Dr. Karl Jordan, President of the Section on Nomenclature of the Twelfth International Congress of Zoology, acting in virtue of the powers conferred upon him in this behalf by Article 2 of the Plenary Powers Resolution adopted by the Ninth International Congress of Zoology at the meeting held at Monaco on 31st March 1913, appointed for the consideration of this case a Board of Three Members composed as follows :—

Sir Peter Chalmers Mitchell	A former member of the International Commission on Zoological Nomenclature, who had expressed no public opinion on the present case ;
Dr. Frederick Chapman	A Commissioner who had voted in favour of the suspension of the rules in this case ; and

¹⁴ It is with great regret that the International Commission on Zoological Nomenclature have to record that, while the present *Opinion* was passing through the press, the death of Sir Peter Chalmers Mitchell occurred on 2nd July 1945 as the result of a street accident.

Dr. Karl Jordan

A Commissioner who had voted against the suspension of the rules in this case.

21. The terms of reference of the Board of Three Members referred to above were as follows :—

- (i) to review the evidence submitted to the International Commission on Zoological Nomenclature for and against the suspension of the rules in the International Code of Zoological Nomenclature in the case of the names *Nummulites* Lamarck, 1801, and *Camerina* Brugière, 1789 (Class Rhizopoda, Order Foraminifera); and
- (ii) to report whether an *Opinion* should be rendered :—

(a) suspending the rules :—

- (1) to suppress the name *Camerina* Brugière, 1789, *Ency. méth. (Vers)* (1) : xvi for all purposes other than Article 34 of the International Code;

and

- (2) to validate the name *Nummulites* Lamarck, 1801, *Syst. Anim. sans Vert.* : 101 (type : *Camerina laevigata* Brugière, 1789, *Ency. méth. (Vers)* (2) : 399); and

(b) placing the name *Nummulites* Lamarck, 1801, so validated, on the *Official List of Generic Names in Zoology*.

22. The following Reports on this case were received from the members of the Board of Three Members constituted by the President of the Section on Nomenclature of the Twelfth International Congress of Zoology in the manner specified in paragraph 20 above :—

- (i) *Report by the former Commissioner, Sir Peter Chalmers Mitchell*
(dated 13th November 1943) :

After having given careful consideration to the summary of evidence given me by Commissioner Hemming and having been specially impressed by his examination (in paragraph 11) of the individual case and of the important discussion of the general principles of suspension, I have no hesitation in reporting that an *Opinion* should be rendered (a) suspending the rules (1) to suppress the name *Camerina* Brugière, 1789, *Ency. méth. (Vers)* (1) : xvi (Protozoa), and (2) to validate the name *Nummulites* Lamarck, 1801, *Syst. Anim. sans Vert.* : 101 (type : *Camerina laevigata* Brugière, 1789, *Ency. méth. (Vers)* (2) : 399) (Protozoa); and (b) placing the name *Nummulites* Lamarck, 1801, so validated, on the *Official List of Generic Names in Zoology*.

- (ii) *Report by Commissioner Karl Jordan* (dated 12th December 1943) :

In arriving at a vote in favour of *Nummulites* Lamarck, 1801, I have been guided by the following considerations :—

- (1) From 1758 to recent times the principle of priority was not generally applied. Its strict application to the literature of that period frequently requires a change of names.

- (2) The replacement of a familiar name by an older unfamiliar one is no hardship for the specialist. Equally, the suppression (for some cogent reason) of an older name in favour of a younger one is a small matter for the systematist, unless he loses control of his temper and forgets that a concept of complete justice must include equity.
- (3) Therefore, if the application of strict priority is in an individual case a real hardship for another field of knowledge, the claim of the systematist should be set aside if nothing but priority is involved for him, zoological nomenclature having the sole object to provide a *convenient universal* means of reference to the animal named.
- (4) The name *Nummulites* having almost universally been applied as a generic term for leading fossils in certain geological strata, its suppression would lead to confusion in teaching geology, in geological research and in the application of geological knowledge. For which reason I vote that the law of priority be suspended in the case of *Nummulites* versus *Camerina* and that *Nummulites* be put on the *Official List of Generic Names in Zoology* in the manner indicated in part (ii) of the Board's terms of reference.¹⁵

III.—THE CONCLUSION REACHED BY THE INTERNATIONAL COMMISSION.

23. The decision taken by the International Commission on Zoological Nomenclature in the present case is :—

- (a) under suspension of the rules :—
 - (i) to suppress the name *Camerina* Brugière, 1789, *Ency. méth.* (Vers) (1) : xvi (Class Rhizopoda, Order Foraminifera) for all purposes other than Article 34 of the International Code; and
 - (ii) to validate the name *Nummulites* Lamarck, 1801, *Syst. Anim. sans Vert.* : 101 (type : *Camerina laevigata* Brugière, 1789, *Ency. méth.* (Vers) (2) : 399); and
- (b) to add the name *Nummulites* Lamarck, 1801, validated as in (a) above and with the type there specified, to the *Official List of Generic Names in Zoology*.

24. The foregoing decision was taken by the International Commission on Zoological Nomenclature, acting through a Board of Three Members constituted in accordance with the provisions of Article 2 of the Plenary Powers Resolution of March 1913.¹⁶

25. The following two (2) members of the Board of Three Members voted in favour of the adoption of the present *Opinion* :—
Mitchell; Jordan.

26. No member of the Board of Three Members voted against the present *Opinion*. No vote was received from the third member of the Board (namely Commissioner Chapman), who died ¹⁷ after having been appointed a member of the Board but before having recorded his vote.

¹⁵ See paragraph 21 above.

¹⁶ See footnote 12.

¹⁷ The death of Commissioner Frederick Chapman occurred on 10th December 1943.

IV.—AUTHORITY FOR THE ISSUE OF THE PRESENT *OPINION*.

WHEREAS the Ninth International Congress of Zoology at its meeting held at Monaco in March 1913, adopted a Resolution conferring upon the International Commission on Zoological Nomenclature, Plenary Powers to suspend the rules as applied to any given case where, in the judgment of the Commission, the strict application of the rules would clearly result in greater confusion than uniformity, provided either that after the due advertisement of the possible suspension of the rules as applied to the said case the members of the Commission were unanimously in favour of that course or that, in default of unanimity, a Board of Three Members duly constituted in accordance with the provisions of Article 2 of the Resolution of March 1913 referred to above (hereinafter referred to as the "Plenary Powers Resolution"), acting for the said International Commission, decided, either unanimously or by a majority, in favour of the suspension of the rules as applied to the case so referred to them for decision; and

WHEREAS the suspension of the rules is required to give valid force to the provisions of the present *Opinion* as set out in the summary thereof; and

WHEREAS in default of unanimity regarding the decision to be taken as respects the names dealt with in the present *Opinion*, the International Commission agreed unanimously at their Session held at Lisbon in 1935 that this case should be decided by a Board of Three Members constituted in accordance with the provisions of Article 2 of the Plenary Powers Resolution; and

WHEREAS the Board of Three Members duly constituted to consider this case has agreed that an *Opinion* should be rendered by the International Commission on Zoological Nomenclature in the sense of the present *Opinion* :

NOW, THEREFORE,

I, FRANCIS HEMMING, Secretary to the International Commission on Zoological Nomenclature, acting in virtue of all and every the powers conferred upon me in that behalf by reason of holding the said Office of Secretary to the International Commission, hereby announce the said *Opinion* on behalf of the International Commission, acting for the International Congress of

Zoology, and direct that it be rendered and printed as *Opinion* Number One Hundred and Ninety Two (*Opinion* 192) of the said Commission.

In faith whereof I, the undersigned FRANCIS HEMMING, Secretary to the International Commission on Zoological Nomenclature, have signed the present *Opinion*.

DONE in London, this second day of January, Nineteen Hundred and Forty Five, in a single copy, which shall remain deposited in the archives of the International Commission on Zoological Nomenclature.

*Secretary to the International Commission
on Zoological Nomenclature.*

FRANCIS HEMMING